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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,416	04/05/2001	Tatsuya Arao	0756-2293	5035

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EXAMINER

TRAN, THIEN F

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 04/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/826,416

Applicant(s)

ARAO ET AL.

Examiner

Thien F Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 21-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 21-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-11 and 21-29 in Paper No. 8 is acknowledged.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

Claim 9 is objected to because of the following informalities: line 3, "or" should be --and--. Appropriate correction is required.

Claim 10 is objected to because of the following informalities: line 3, "or" should be --and--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1, 2, 3, 4, 7, 8, 22 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Noguchi (US 6,285,041).

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Noguchi discloses the claimed semiconductor device (Fig. 18) comprising a data wiring (a first wiring) 117 and a pixel electrode (a second wiring) 117 formed on an insulating surface; barrier metal (106, 107) formed so as to correspond to the data wiring and the pixel electrode; a first semiconductor film 105 of one conductivity type formed on the barrier metal; a second semiconductor film 104 formed on an upper layer of the first semiconductor film across the data wiring and the pixel electrode; a gate insulating film 103 formed on the second semiconductor film; and a gate electrode (a third conductive film) 102 formed on the gate insulating film, wherein an end portion of the second conductive film 104 is formed inside an end portion of the barrier metal.

Regarding claims 7, 8, 22 and 27, each of the data wiring and the pixel electrode comprises an indium tin oxide film (ITO).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 6, 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noguchi (US 6,285,041) in view of Kim et al. (US 5,917,564).

Noguchi as described above does not explicitly disclose the data wiring 117 and the pixel electrode 117 comprising aluminum. Kim et al. discloses a semiconductor device (Figs. 9A-9C) comprising a second conductive layer of aluminum that is patterned as a data wiring 2 and as a pixel electrode 17. It would have been obvious to

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a person having ordinary skill in the art at the time the invention was made to form the data wiring 117 and the pixel electrode 117 in Noguchi of aluminum as taught by Kim et al. in order to provide wirings of low resistivity.

Claims 9, 10, 11, 23, 24, 25, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noguchi (US 6,285,041) in view of Kim et al. (US 6,100,954).

Noguchi as described above does not explicitly disclose the gate electrode (third conductive film) 102 comprising at least one element selected from the group consisting of Al, Cr, Ta, Ti, W and an alloy containing the element. These materials are known in the art and routinely used to form gate electrodes in semiconductor device as shown for example by Kim et al. (see col. 16, lines 66-67 and col. 17, lines 1-2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to select any one of these materials as a suitable conductive material for the gate electrode of 102 of Noguchi, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of design choice. In re Leshin, 125 USPQ 416.

Regarding claims 11, 24, 25 and 29, the recitation "the semiconductor device is one selected from the group consisting of a mobile phone, a video camera, a portable information terminal, a liquid crystal TV receiver, a portable book, a personal computer, a DVD player, and a digital still camera" in the claim preamble specifies an intended use or field of use is treated as nonlimiting since it has been held that in device claims, intended use must result in a structural difference between the claim invention and the prior art in order to patentably distinguish the claim invention from the prior art. If the

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prior art structure is capable of performing the intended use, then it meets the claim. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). Furthermore, it is known that all of these devices employ a liquid crystal display device. It would have been obvious to incorporate the liquid crystal display device of the above combined references into these devices for the advantages that the liquid crystal display device provides as described above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thien F Tran whose telephone number is (703) 308-4108. The examiner can normally be reached on 7:00AM - 3:30PM Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (703) 308-2772. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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April 1, 2002

A handwritten signature in black ink, appearing to read "Thien Tran".

Thien Tran
Patent Examiner
Technology Center 2800